Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Introduction: Acute kidney injury (AKI) has been identified as one of most common and significant problems in hospitalised patients with COVID-19 leading to increased morbidity and mortality. Little is yet known about the incidence and impact of AKI occurring in the community or early in the hospital admission in this population. An extended KDIGO (eKDIGO) definition of AKI that incorporates a decrease in the serum creatinine (sCr) has been used in previous studies to improve detection of these cases, particularly in low-income country settings. We hypothesized that such a definition would identify more cases of AKI among hospitalized patients with COVID-19 that may have developed in the community and is resolving in the early part of the admission.

Methods: This was a multinational, multicentre, prospective cohort study embedded in the ISARIC WHO COVID-19 platform. Patients with confirmed rtPCR for SARS-CoV-2 that required hospital admission were registered prospectively. Incidence and staging of AKI was calculated using KDIGO and eKDIGO definitions (Table 1). Time to peak AKI from hospital admission was compared between AKI groups (KDIGO & eKDIGO) by visual inspection using histograms. Descriptive statistics were used to describe the clinical characteristics and compare clinical outcomes among patients with eKDIGO AKI and those without AKI, as well as those with KDIGO AKI and those diagnosed with AKI only from a decrease in sCr (deKDIGO).

Table 1

	KDIGO[9]	eKDIGO
Diagnosis	Increase in sCr by ≥ 26.5 µmol/L within 48 hrs; or Increase in sCr to ≥ 1.5 times baseline, which is known or presumed to have occurred within the prior 7 days.	Increase in sCr by ≥ 26.5 µmol/L OR decrease in sCr by ≥26.5 µmol/L within 48 hrs; or Increase in sCr to ≥ 1.5 times baseline OR a decrease in sCr to ≥ 1.5 times baseline, which is known or presumed to have occurred within the prior 7 days.*
Staging**		
Stage 1	sCr increase to 1.5 – 1.9 times baseline; or Increase in sCr by ≥ 26.5 µmol/L	sCr increase to 1.5 – 1.9 times baseline or an increase in sCr by ≥ 26.5 µmol/L; or sCr decrease to 1.5 – 1.9 times baseline or a decrease by ≤ 26.5 µmol/L
Stage 2	sCr increase to 2.0 to 2.9 times baseline	sCr increase to 2.0 to 2.9 times baseline; or sCr decrease 2.0 to 2.9 times baseline
Stage 3	sCr increase to 3.0 times baseline; or sCr increase by ≥ 353.6 µmol/L or Initiation of renal replacement therapy	sCr increase to 3.0 times baseline or sCr increase by ≥ 353.6 µmol/L or Initiation of renal replacement therapy; or sCr decrease to 3.0 times baseline or sCr decrease to ≤ 353.6 µmol/L

*deKDIGO refers to the group of patients diagnosed with AKI by eKDIGO ONLY by the decrease in sCr.
** Time frames for sCr increases in each stage mirror the pattern for diagnosis: Baseline increases must occur within the previous 7 days and absolute sCr increases (by 26.5 and 353.6 µmol/l) must occur within 48 hrs.
eKDIGO = extended KDIGO definition, sCr = serum creatinine

Results: A total of 75,670 patients from 60 countries and 6 continents were included in this analysis. There were 12,7440 (16.8%) patients diagnosed with AKI using the KDIGO definition and 23,982 (31.7%) using eKDIGO. Stage 3 was more common among the KDIGO group (47%) while Stage 1 was more common in the eKDIGO group (58%). The majority of additional cases detected with eKDIGO were diagnosed (peak AKI) on day 3. Compared to patients without AKI, eKDIGO AKI patients were more likely to be from a low middle-income country (9 vs 4%), have worse renal function on admission (eGFR 54 vs 80 ml/min), more in-hospital complications, higher rate of ICU admission (54 vs 23%), invasive ventilation (45 vs 15%) and increased mortality (38 vs 19%) (all p-values < 0.001). While patients with AKI diagnosed by KDIGO had worse outcomes than the deKDIGO AKI group, the latter still appeared to do worse on these short-term outcomes.

Conclusions: This is the first study to systematically examine an extended KDIGO definition for the identification of AKI against the traditional KDIGO criteria in hospitalized COVID-19 patients. Our population is the largest and only multinational cohort of patients with COVID-19, with a considerable proportion of patients from low- and middle-income countries. The use of an extended KDIGO definition to diagnose AKI in this population resulted in a significantly higher rate of identification compared to traditional KDIGO criteria. These additional cases may represent community acquired AKI that, while mild, appear to have a negative impact on patient's short-term outcomes, highlighting the importance of their timely recognition both for acute management and subsequent follow-up.

Conflict of interest

Potential conflict of interest:

I received a Research Training Scholarship from the University of Queensland to fund the duration of my PhD.

POS-881

EXTRACORPOREAL BLOOD PURIFICATION TREATMENT IN COVID-19 PATIENTS WITH ACUTE KIDNEY INJURY

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Introduction: Severe COVID-19 infection is associated with high mortality and morbidity, linked to releasing the cytokines that cause hyper-inflammatory state and septic shock. Ventilatory support has always been the mainstay of treatment, but organ support, especially continuous renal replacement therapy, is vital in reducing the death of the patients. Thus, extracorporeal blood purification (EBP) has been proposed to decrease this state in COVID-19 patients with acute kidney injury (AKI).

Methods: A prospective observational study was conducted with an intention-to-treat involving COVID-19 patients with AKI from March to August 2021. We assessed the outcome of patients treated with EBP according to the local practice. The Oxiris ® hemofilter was prescribed in all EBP prescriptions. Main endpoints included reduction of inotropic support, multi-organ function scores, and mortality.

Results: A total of 657 patients were admitted, and 8% (n=57) had AKI. Forty-two (73.3%) are male, 81.7% are obese, 61.4% are smokers, and 52.6% and 43.6% are admitted with categories 4 and 5, respectively. Comorbidities were present in 64.9% of this cohort. The most common AKI cause was dehydration (58%) and pre-admission (68.4%). Twenty-seven (47.4%) patients were admitted to ICU, and 96% (n=26) required renal support.

Continuous renal replacement therapies (CRRT) include EBP and CVVHDF, which were given to 21 patients, while 5 patients had intermittent haemodialysis, including SLEDD. Choice of dialysis modality was important, as CRRT had longer median patients survival (15 +0.7 days) compared to intermittent haemodialysis (10 ±1.6 days) (p= 0.04). The EBP was used in 67.7% (n=14) patients requiring CRRT. EBP usage was associated with a significant reduction in C-reactive Protein (CRP) (p=0.041), inotropic support (p=0.009), and the SOFA Scores (p=0.036). Usage of EBP in CRRT showed a promising survival curve compare to CVVHDF (p=0.020) (Figure1). Nevertheless, 84% of patients requiring dialysis have poor survival outcomes, mostly due to non-dialysis complications, such as secondary bacterial infection.

Conclusions: AKI in COVID-19 patients requiring renal support has poor morbidity and mortality. However, the use of EBP with OXIRIS® hemofilter was associated with reduction in CRP, inotropic support, and SOFA scores of the patients. With these findings, EBP may offer an attractive and alternative treatment mode in the management of hyper inflammation in COVID-19 patients. However, a larger randomize control trial study is needed to validate the practice of EBP in COVID-19 infection with AKI.

No conflict of interest

POS-882

INCIDENCE OF PROTEINURIA AND MICROSCOPIC HEMATURIA IN HOSPITALIZED COVID-19 INFECTED PATIENTS- A SINGLE CENTER EXPERIENCE

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Introduction: The Outbreak of COVID-19 has rapidly evolved to global pandemic since December 2019. More than 220 millions people